Annals of the Royal College of Surgeons of England (1993) *vol.* 75, 161–163

Multiple fibroadenomas of the breast: a problem of uncertain incidence and management

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Key words: Benign breast disease; Fibroadenomas; Multiple fibroadenomas

A case is presented of multiple fibroadenomas of the breasts in a young Caucasian woman followed over a period of 10 years. A total of 22 individual lesions have been identified. Review of the literature gives little guidance regarding incidence, natural history and management of this condition. It is proposed that a register be set up to obtain basic data on this rare condition. The authors would be willing to collate cases submitted to such a register.

Fibroadenomas are among the most common tumours of the female breast *(1)*. Usually only one or two occur in a patient, but bilateral lesions and even up to four in a single patient are not uncommon *(1,2)*.

The occurrence of more than five fibroadenomas in an individual patient is much less common, and current literature is singularly unhelpful in providing data relating to incidence, natural history and advice on management. It is likely that this condition is more common than the literature would suggest, and we present this case of multiple fibroadenomas in the hope that it will stimulate interest and data collection.

Case history

An 18-year-old University student presented in January 1982 with a 1 month history of bilateral non-tender breast lumps. Examination confirmed the presence of two 2 cm lumps in the right breast and a single 3 cm lump on the left. All were highly mobile and clinically typical of fibroadenomas. The three lesions were excised through two scars under general anaesthesia. Histology revealed them all to be benign fibroadenomas, showing a pericanalicular pattern of connective tissue proliferation.

She returned 4 months later with a hypertrophic scar and a further 1.5 cm lump on the right side, again clinically characteristic of a fibroadenoma. It was decided to treat the lump conservatively. As there was no significant change over the next 3 years excision of the single lesion was planned. However, on the next visit, in November 1985, the lump had increased to 2 cm and two more 1 cm lumps had appeared in the same breast. Surgery was again postponed to avoid multiple disfiguring scars. The patient had been started on an oral contraceptive pill around this time, and a clinical decision was taken to maintain a policy of observation at annual intervals.

Over the next 6 years further lumps developed, never greater than 2 cm in size on clinical examination, the larger ones remained static on assessment by a single observer. Approximately 12 lesions could be palpated, but it was difficult to be certain of the exact number with clinical examination alone.

At the most recent clinical assessment 10 years after presentation, there had been a decrease in the size of the larger lumps by approximately 30%, the first such decrease observed. A careful ultrasound assessment at this time recorded 19 individual lesions, 12 in the upper half of the right breast, four in the upper half of the left

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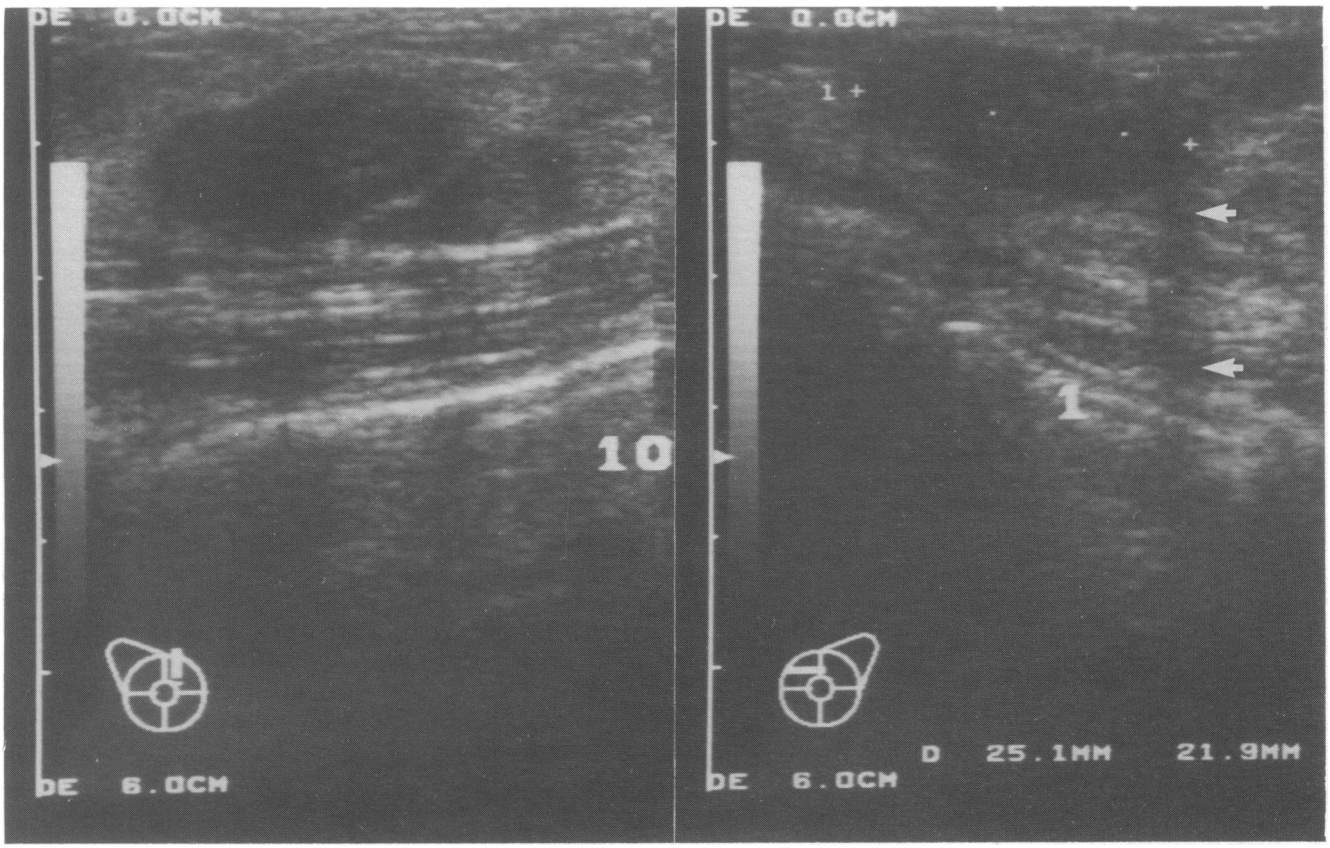

Figure 1. Ultrasonograms demonstrating the typical ultrasound appearences of fibroadenomas; showing two well-defined hypoechoic, homogeneous, lobulated lesions in the upper-inner quadrant of the right breast (10); and a further similar lesion in the upper-inner quadrant of the left breast (1). Attenuation from the edge of the fibroadenoma is a recognised feature (arrowed).

breast, and one each in the right lower outer, left lower inner and left lower outer segments. They measured from 5 mm to 30 mm in diameter (Fig. 1).

Discussion

The case reported illustrates a florid example of a common lesion found in the female breast. Such cases have been reported only rarely and the majority have been part of familial syndromes, in non-Caucasian women. There is no mention of this syndrome in the standard pathological texts, and personal communications with surgeons with breast disease interest in Nigeria, India, Trinidad and Hong Kong have not revealed any cases within their experience. We can find only six cases in the literature, Naraynsingh and Raju *(3)* presented the cases of three Indian sisters, while Haagensen reported the cases of a Negro mother and daughter *(1)*. A letter reporting the sixth case did not specify the race, nor indeed the number or size of the multiple lesions *(4)*. There are also reports of multiple 'giant' fibroadenomas, but these appear to be a different entity, also occurring in Negros *(5)*. Our patient is Caucasian and has one unaffected sister, with no family history of similar or other breast abnormalities.

As fibroadenomas are common, it might be more appropriate to pose the question, why are cases of multiple fibroadenomas not reported more frequently? Certainly up to four in a single breast is a relatively common feature, 16% of Haagensen's large series of 402 cases of fibroadenomas were multiple *(1)*, a similar proportion has been reported by other large series *(6)*. It is likely that subclinical fibroadenomas are common. Parks *(7)* has shown that lesions histologically identical with fibroadenomas are very common on microscopy of 'normal' breasts and that a continuum exists between these microscopic lesions and normal lobules on the one hand and clinical fibroadenomas on the other. He proposed that fibroadenomas were extreme forms of the more frequently observed lobular hypertrophy, a theory in keeping with the broader ANDI concept which sees many benign conditions of the breast as minor aberrations of the normal processes of development and involution *(8)*. Certainly, in his series of 50 post-mortem breast specimens, Parks could find frank fibroadenomas that had presumably been impalpable, unfortunately he did not state how many he found within any single breast.

Perhaps cases of multiple fibroadenomas may be able to provide some insight into the aetiology of fibroadenoma formation. Certainly there is a strong familial connection in the majority of the reported cases; this has not been proven for 'non-multiple' lesions, however. The possible role of the oral contraceptive pill in breast pathology is often raised; indeed, the authors of one report *(4)* implicated its use in their patients' pathology.

While many of our patient's lesions became overt after starting oral contraception, she had revealed the tendency of fibroadenoma formation long before this time. Other authors have also failed to find a link *(6)*

What then is the appropriate management of these cases? One approach could be to excise the individual lesions as they appear, but this could lead to undesirable scarring, especially with a tendency to formation of hypertrophic scars in young patients and also typical of Black races. Another surgical approach is that of Naraynsingh and Raju *(3)*, utilising the mobility of the fibroadenomas, allowing them to be excised through a single cosmetic circumareolar incision in each breast. However, they give no follow-up information and in our case this approach could lead to extensive duct damage.

Alternatively, multiple lesions have been treated conservatively, as has been suggested for single lesions, based upon benign cytology and typical clinical and ultrasound appearance *(9,10)*. We, and the patient, have preferred conservative treatment in this case, but not without concern in the absence of data on the long-term outcome of multiple fibroadenomas.

In conclusion, this syndrome appears to be very uncommon from our own experience, that of Haagensen *(1)*, and from the literature on the common fibroadenoma. In an attempt to obtain further data, the authors would welcome details of further cases, and would be willing to collate the data onto a register.

References

1 Haagensen CD. *Diseases of the Breast*, 3rd Edition. Philadelphia: WB Saunders, 1986.

2 Wiegenstein L, Tank R, Gould VE. Multiple breast fibroadenomas in women on oral contraceptives. *N Engl J Med* 1971;**284**:676.

3 Naraynsingh V, Raju GC. Familial bilateral fibroadenomas of the breast. *Postgrad Med J* 1985;**64**:439–40.

4 Gregg WI. Galactorrhea after contraceptive hormones. *N Engl J Med* 1966;**274**:1432.

5 Musio F, Mozingo D, Otchy DP. Multiple giant fibroadenomata. *Am Surg* 1991;**5**:438–41.

6 Foster ME, Garrahan N, Williams S. Fibroadenoma of the breast: a clinical and pathological study. *J R Coll Surg Edinb* 1988;**33**:16–19.

7 Parks AG. The microanatomy of the breast (Hunterian Lecture) *Ann R Coll Surg Engl* 1959;**25**:295–311.

8 Hughes LE, Mansel RE, Webster DJT. *Benign Disorders and Diseases of the Breast.* London: Baillière Tindall, 1990.

9 Sainsbury JRC, Nicholson S, Needham GK, Wadhera V, Farndon JR. Natural history of the benign breast lump. *Br J Surg* 1988;**75**:1080–2.

10 Walters TK, Zuckerman J, Nisbett-Smith A, Hudson E, Chia Y, Burke M. FNA biopsy in the diagnosis and management of fibroadenomas of the breast. *Br J Surg* 1990;**77**:1215–17.

Received 9 July 1992